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PROCEEDINGS
OF THE
MONTHLY MEETINGS
OF THE
ENTOMOLOGICAL SECTION
OF THE
ACADEMY OF NATURAL SCIENCES,
PHILADELPHIA.

JANUARY 14, 1881.

Vice-Director Dr. HORN in the chair.

The Publication Committee reported favorably the following papers presented at the last meeting for publication in the Transactions of the American Entomological Society:—

“Descriptions of new species of Diurnal Lepidoptera found within the United States,” by Wm. H. Edwards.

“Notes on the species of *Callidryas* found within the United States,” by Wm. H. Edwards.

The following additions to the Library of the American Entomological Society were announced:—

American Entomologist, vol. iii, No. 12. From the Editor.

Proceedings of the Boston Society of Natural History, vol. xx, sig. 25 and 26. From the Society.

Canadian Entomologist, vol. xii, No. 12. From the Editor.

Psyche, vol. iii, No. 77, September, 1880. From the Editors.

Entomologist's Monthly Magazine, Nos. 199 and 200. From the Conductors.

Le Naturaliste Canadien, vol. xii, No. 139. From the Editor.

Journal of the Royal Microscopical Society, vol. iii, Nos. 6 and 6 a. From the Society.

A review of the species of *Anisodactylus* and critical notes on the species of *Selenophorus*, inhabiting the United States, by George H. Horn, M. D. From the Author.

Report of the Entomologist of the U. S. Department of Agriculture, for the year 1879, by J. Henry Comstock. From the Author.

Report of the Curator of the Museum of the Southern Illinois Normal University, by G. H. French. From the Author.

FEBRUARY 11, 1881.

Vice-Director Dr. HORN in the chair.

The following additions to the Library of the American Entomological Society were announced:—

Transactions of the American Entomological Society, vol. viii, Nos. 3 and 4. From the Publication Committee.

Entomologist's Monthly Magazine, No. 201. From the Conductors.

Entomologisk Tidskrift af Jacob Spangberg, vol. i, Parts 3 and 4. From the Author.

Bulletino della Societa Entomologica Italiana, vol. iv. From the Society.

Canadian Entomologist, vol. xiii, No. 1. From the Editor.

MARCH 11, 1881.

Vice-Director Dr. HORN in the chair.

The Publication Committee reported favorably the following papers presented at the last meeting for publication in the Transactions of the American Entomological Society:—

“Descriptions of new species of Tortricidæ of North America,” by Prof. C. H. Fernald.

“Catalogue of the Tortricidæ of North America,” by Prof. C. H. Fernald.

The Publication Committee laid upon the table signatures 1 and 2 (pages 1—16) of volume ix, of the Transactions of the American Entomological Society, printed since the last meeting.

Dr. LeConte desired to record the following notes on the habits of Coleoptera, as communicated by Mr. J. J. Rivers, of the University of Cal., Berkeley; Mr. J. B. McChesney, High School, Oakland, Cal.; Mr. Siewers, Newport, Ky., and others.

Californian species.

Cucujus puniceus, Mt. Shasta, under pine bark, (McC.).

Calitys scabra, form *serrata*, Mt. Shasta, under fir bark, (McC.).

Carpophilus discoideus, Berkeley, under oak bark, (Rivers).

Scymnus marginicollis, Berkeley, under oak bark, (Rivers).

—— *nebulosus*, Berkeley, under oak bark, (Rivers).

Teretrius placitus, Berkeley, in burrows of *Ptilinus basalis*, in Oreodaphne (Laurel); variety with black elytra, (Rivers).

Clerus eximius, in Oreodaphne, (Rivers). The larva spins a cocoon.

Hadrobregmus gibbicollis, in Oreodaphne, (Rivers).

Vrilletta convexa, bores in oak, (Rivers).

Holopleura Helena, in *Oreodaphne*. (Rivers), a very variable species in color; *H. marginata* is an extreme variety, with the black surface much developed.

Atlantic species.

Synchita granulata, under bark of honey locust.

Rhizophagus bipunctatus, under beech bark. (Siewers).

Nemosoma cylindricum, in *Rhus radicans*, (Reinecke).

Grynocharis 4-lineata, under beech bark. (Siewers).

Cregya vetusta, on *Rhus radicans*, (Reinecke).

Elaphidion (*Psyrassa*) *unicolor*, in *Cercis*; (Judas tree).

Glyptoscelis barbata, on hickory leaves. (Siewers).

Zaglyptus sulcatus, upper branches of dead beech trees, (Siewers).

Microhyus setiger, upper branches of dead beech trees. (Siewers).

Dendroctonus punctatus, under bark of black spruce, (Hagen).

Mr. E. T. Cresson presented the following descriptions of new Hymenoptera in the collection of the American Entomological Society:

Liris brunneipes.—♀.—Black, smooth and shining; mandibles except tips, and the palpi, testaceous; scape brown; mandibles with inferior margin entire; metathorax above finely coriaceous, opaque, sides finely striated, the truncated apex rugulose, with a small deep shining fovea on upper middle; tegulae dull testaceous; wings subhyaline, a dark streak at tip of marginal cell, nervures and stigma piceous; marginal cell short and broad, the tips broadly truncate; first submarginal cell longer than the second and third together, *receiving the first recurrent nervure near the tip*; second submarginal triangular, receiving the second recurrent nervure slightly beyond the middle; third submarginal cell narrow, rounded below and narrowed above towards the marginal; legs piceous, tibiae and tarsi brownish-testaceous, tibiae spinose, the intermediate pair with two spurs at tip; abdomen smooth and polished, impunctured. Length .25 inch.

Var. ♀.—Middle of clypeus, mandibles except tips, palpi, antennae, most of prothorax, tegulae, tubercles, and most of four anterior legs, testaceous; abdomen piceous. Length .25 inch.

♂.—Resembles the ♀; sides of face, clypeus, mandibles except tips, scape beneath and tubercles, white; flagellum brown above, testaceous beneath; tegulae piceous; metathorax with a deep depression at tip above; wings pale fusco-hyaline, the posterior pair paler, with a fuscous spot at tip. Length .23 inch.

Hab.—Colorado; Nevada; (Morrison). This may not belong to the genus in which it is placed, as the first submarginal cell receives a recurrent nervure. The eyes in the ♂ do not meet on the vertex, but are as widely separated as in the ♀.

Astata occidentalis.—♂.—Entirely black, clothed with glittering whitish pubescence, quite dense on sides of the face, cheeks and apex of metathorax; front punctured, with a smooth shining depression before anterior ocellus; mesothorax closely punctured and depressed anteriorly, sparsely punctured and shining on the disk and posteriorly; scutellum sparsely punctured and shining the apex densely punctured; pleura at sides and beneath densely punctured and opaque;

tegulae polished; metathorax above with fine dense longitudinal suboblique striations; the apical middle on the verge of the truncation somewhat smooth and slightly produced, the truncation closely punctured, with a deep shining fovea on upper middle, sides of metathorax rugulose; wings hyaline, with a fuscous cloud covering the marginal and submarginal cells and faintly the discoidal cells, nervures and stigma black, apex of marginal cell obliquely truncate, the appendiculate nerve short, not reaching the margin of the wing; legs black with griseous pubescence; abdomen shining, first segment finely punctured, thickly clothed, especially at sides, with rather long pale pubescence, second segment at base very minutely punctured; venter shining, sparsely clothed with a blackish pubescence. Length .45—.55 inch.

Hab.—Washington Territory; (Morrison). Closely allied to ♂ *unicolor* Say, which however has the metathorax coarsely reticulated above and the wings hyaline.

Astata nigropilosa.—♀.—Deep black, shining, clothed with black pubescence; face finely and rather closely punctured; mesothorax and scutellum smooth and polished, with a few scattered punctures, the former clothed with black pubescence on anterior margin and with a shallow depressed line over the tegulae; metathorax above rather finely reticulated, more coarsely so on the sides, apex rugose, with a deep shining fovea on upper middle; pleura finely punctured, pubescent; tegulae rufo-piceous; wings uniformly fuscous, with a darker streak at tip of marginal cell, nervures and stigma black, marginal cell broadly and obliquely truncate at tip, the appendiculate nervure very short, third submarginal cell slightly narrowed towards the marginal, posterior wings much paler than the anterior; tarsi more or less brown at tips; abdomen smooth and polished, impunctured. Length .35—.45 inch.

Var. ♀.—Wings subhyaline, the anterior pair broadly fuliginous at tip; the first dorsal segment of abdomen except base, the second entirely, above and beneath, and the lateral and apical margin of the third, ferruginous. Length .35 inch.

♂.—Mesothorax finely punctured, the anterior middle depressed; apex of metathorax above depressed and somewhat produced; tegulae black; anterior wings hyaline at base; abdomen rather less shining and more pubescent. Length .45—.50 inch.

Hab.—Colorado; Nevada; (Morrison).

Astata caerulea.—♂.—Steel-blue, shining, clothed with black pubescence; face finely punctured; mandibles and antennae black, tips of the former reddish; mesothorax sparsely, feebly punctured, somewhat depressed anteriorly and with a finely impressed longitudinal line on each side over tegulae; scutellum smooth and shining, with a medial impression; metathorax opaque, coriaceous, the apex above somewhat produced and with a broad rather deep depression; the sides and apical truncation finely rugulose; pleura finely punctured; tegulae piceous; anterior wings fuscous, the nervures and stigma black, marginal cell short and broad, the apex broadly truncate, the appendiculate nervure indistinct, but continued to the margin of the wing, third submarginal narrow, rounded beneath and narrowed above towards marginal, the first submarginal longer than the second and third together, posterior wings hyaline; legs black, the coxae and femora tinged with blue; abdomen shining, impunctured. Length .35 inch.

Hab.—Nevada; (Morrison). Readily distinguished by the steel-blue color.

Astata mexicana.—♂.—Black: clothed with a whitish pubescence, silvery in certain lights, long and dense on sides of face, cheeks and on metathorax; mesothorax closely and finely punctured, more sparsely so posteriorly; a short smooth longitudinal line on each side of anterior middle, ending in a small tubercle; scutellum smooth and polished on disk; pleura rather closely and finely punctured, shining; metathorax above covered with fine oblique striations, which are coarse at extreme base and somewhat reticulated, apical middle slightly depressed and produced, the truncation rugulose, with a deep shining fovea on upper middle, sides of metathorax closely punctured; tegulae piceous: wings hyaline, faintly stained with fuscous towards tips and especially in marginal and submarginal cells, nervures and stigma black, apex of marginal cell obliquely truncate, the appendiculate nerve distinct to edge of the wing, the third submarginal cell narrowed one-half towards the marginal; legs black, clothed with pale glittering pubescence, tarsi more or less tinged with reddish-brown; abdomen rufo-fulvous, shining, sparsely pubescent, the pubescence longer and more dense on basal segment, base of first segment above, most of first and disk of second ventral segments black. Length .40—.50 inch.

Hab.—Mexico; (Sumichrast).

Astata nevadica.—♀.—Deep black, polished, sparsely clothed with pale glittering pubescence, that on the face about base of antennae, mesothorax and legs, black; face with large sparse punctures; middle of mandibles tinged with red; mesothorax with a few scattered punctures; scutellum flattened, smooth, impunctured; metathorax above finely reticulated, opaque, sides obliquely striated, the truncated apex rugose, with a small pit on upper middle; pleura finely longitudinally striated on the sides, shining and sparsely punctured beneath; tegulae piceous: wings subhyaline, the apex broadly fuliginous, with a darker streak at tip of the marginal cell, which is broadly and rather obliquely truncate at tip, the appendiculate nervure very short; third submarginal cell slightly narrowed towards the marginal; tips of tarsi brownish; abdomen shining, dark ferruginous, extreme base above and beneath, black. Length .37 inch.

Hab.—Nevada; (Morrison). Resembles *bicolor* Say, ♀, but the sculpture of the metathorax is much finer, and the pubescence on the face, mesothorax and legs is black.

Astata montana.—♀.—Small, black, shining, sparsely clothed with black pubescence; front below ocelli with an impressed longitudinal line; mesothorax and scutellum smooth and polished, a feebly impressed longitudinal line on each side over tegulae; metathorax coriaceous, in one specimen granulated, opaque, the apex above with a more or less distinct medial impression, the sides feebly wrinkled; pleura opaque on the sides and shining beneath; tegulae piceous; wings smoky subhyaline, nervures black or brown, stigma honey-yellow or brown; marginal cell short and broad, the apex broadly truncate, the appendiculate nervure very fine and indistinct, but continued to margin of the wing; first submarginal cell longer than the second and third together, the second receiving the first recurrent nervure at or near its base and the second a little beyond the middle; the third submarginal narrowed towards the marginal; tarsi more or less brown; abdomen entirely ferruginous, shining, impunctured. Length .25—.30 inch.

Hab.—Colorado; Nevada; (Morrison).

Astata elegans.—♀.—Black, shining, sparsely clothed with short pale glittering pubescence; sides of face, about base of antennæ much depressed, making the middle of the clypeus prominent, apical middle the latter as well as the mandibles except tips reddish-brown; mesothorax and scutellum smooth and polished; metathorax coriaceous, opaque, the upper surface unevenly depressed, the sides finely longitudinally striated; tegulae and two spots beneath, white; wings hyaline, slightly stained with yellowish towards apex, nervures brown, stigma honey-yellow; marginal cell short and broad, the tip broadly truncate, the appendiculate nervure very short at apex of the cell but continued indistinctly to margin of the wing; first submarginal cell much longer than the second and third together, second submarginal triangular, receiving the first recurrent nervure at the base and the second between the middle and apex, third submarginal cell narrow, oblique, slightly narrowed towards the marginal; the tarsi, and occasionally the tibiae, more or less brown; abdomen smooth and shining, entirely ferruginous. Length .35 inch.

♂.—Colored like the ♀, but on the front immediately beneath the ocelli a transverse flattened, oblique, roof-like protuberance, divided in the middle and smooth, polished and white above; apical middle of clypeus with a stout, acute, porrect tooth; scape short, subglobose; anterior tibiae brown, with a white spot or line at base anteriorly, tarsi brownish-testaceous; first segment of abdomen above sometimes with a narrow subapical yellowish-white band, sometimes subinterrupted; the two or three apical segments are occasionally black or fuscous. Length .30—.35 inch.

Hab.—Washington Terr.; Vancouver's Island; Nevada; Colorado; (Morrison). The specimens from the last three localities are smaller and have no pale band on first abdominal segment, and the white spots beneath the tegulae are smaller.

Astata bella.—♂.—Black, thinly clothed with fine pale pubescence; face finely punctured, with an impressed longitudinal line beneath the ocelli; clypeus with a stout obtuse tubercle on apical middle; mandibles fulvo-testaceous, with a whitish spot on upper middle; two nearly confluent spots immediately below anterior ocellus, tegulae and spot beneath, white; antennæ brownish beneath, especially at base; mesothorax and scutellum shining, very feebly punctured; metathorax finely coriaceous, subopaque, a rather deep subtriangular depression on apex above, a large deep fovea beneath on the truncation from which proceed on each side a deep longitudinal groove, extending nearly to the base of the metathorax; pleura piceous, smooth and shining; wings hyaline, with a faint dusky cloud covering the marginal and second and third submarginal cells, nervures and stigma pale brown, base of stigma and the nervures at base of the wings pale yellow; marginal cell short and broad, the apex broadly truncate, the appendiculate nervure short, faintly traced to the anterior margin of the wing, first submarginal cell much longer than the second and third together; second submarginal triangular, receiving the first recurrent nervure at base, and the second recurrent at about the middle; third submarginal narrowed one-half towards the marginal; legs pale castaneous, tips of femora, the tibiae and the tarsi yellowish-testaceous or honey-yellow, the anterior tibiae in front and the intermediate pair at base, yellow; abdomen pale honey-yellow, shining, impunctured. Length .26 inch.

Hab.—San Diego, California; (Crotch). A pretty little species, resembling *elegans* ♂, but has not the frontal protuberance.

Dr. Horn suggested a modification of the table of *CLIVINA* which was originally published by Dr. LeConte in Proc. Acad. 1857, p. 81, and since somewhat changed by the author in Bull. Brooklyn Ent. Soc. ii, p. 32.

Lateral margin of thorax attaining the basal margin.

Middle tibiae with a spur on outer side near the tip.....Species 1-8.

Middle tibiae without spur.....Species 9-15.

Lateral margin of thorax not attaining the base but forming an ante-basal ridge.

Middle tibiae without spur.....Species 16-21.

Species 1-15 have many dorsal punctures, 16-21 two or none.

Dr. Horn also called attention to the fact that the characters used in the separation of the genera of the group *Clivinæ* seemed to have very little value, and those based on the ligula not strictly true. An important difference between *Clivina* and *Dyschirius* seemed to have been entirely overlooked. In the former genus the terminal joint of the maxillary palpi does not differ materially in the sexes, while in the latter that of the male is much more dilated and on the under surface is excavated, the concavity which is sharply defined is membranous and probably sensitive. The two genera are thus distinctly separable, while the ligula and paraglossæ do not differ materially in all the genera of *Clivinæ*.

The group *Scarites* is separated from the *Clivinæ* not only by the form of the antennæ and mentum, but also in the occurrence of but one supra-orbital setigerous puncture in the former group and two in the latter. A fuller discussion of the genera of both these groups, illustrated with drawings of dissections of the mouth parts, were promised in a more extended paper which would soon be presented for publication.

Dr. Horn also exhibited two new species of *DESMOCERUS* which he briefly characterized as follows:

D. californicus n. sp.—Black opaque, elytra bluish- or greenish-black, narrowly margined at base and sides with orange-red. Head and thorax densely and moderately coarsely punctured, the latter with the surface regular, and with a slight tinge of bluish-green. Elytra densely punctured, the punctures near the base coarse and deep, becoming gradually finer and denser toward the apex, surface black opaque and with a bluish, violaceous or greenish tinge, the lateral and basal margins narrowly orange-red, scutellum and a small spot each side black. Body beneath and legs densely and rather finely punctured, the metasternum very finely pubescent. Length .64 ♂—.80 ♀ inch; 16—20 mm.

The male is smaller and more slender than the female, and the elytra gradually narrower to apex; the five basal joints of the antennæ are also stouter and more serrate.

Collected by Mr. H. K. Morrison during the past year, in the southern part of California.

D. cribripennis n. sp.—Black, moderately shining, elytra bluish or greenish more or less metallic, narrowly margined with orange-yellow. Head coarsely and deeply, more or less confluent punctured. Thorax coarsely transversely plicate by the confluence of the punctures, surface irregular, bronzed. Elytra very coarsely and deeply punctured, the punctures near the apex very little smaller. Scutellum and a small spot each side black. Body beneath and legs finely and moderately densely punctured, the abdomen less densely at middle. Length .48 ♂—.72 ♀ inch; 12—18 mm.

The sexual characters are as in the preceding species but less marked.

Collected by Mr. Morrison in Washington Territory.

Dr. Horn stated that some time ago he exhibited females of these and supposed them merely instances of dimorphism. He was glad to be able to correct his own mistake and place the species in their proper light.

Desmocerus now contains four species, three of which belong to the Pacific fauna, they are as follows:

Elytra at basal half yellow, apex blue, disc finely tricostate, (*elongatus* Bl.).

palliatus Forst.

Elytra either entirely yellow or margined with yellow, not costate.

Male elytra orange-yellow, female with discal blue space, punctuation moderately coarse, a little finer near apex..... **aureipennis** Chev.

Elytra similarly colored in the sexes, both narrowly margined with yellow at sides and base.

Thorax irregularly plicate, elytra coarsely and deeply punctured from base to apex..... **cribripennis** Horn.

Thorax densely punctured, regularly convex, elytra moderately coarsely punctured at base, more finely and densely at apex..... **californicus** Horn.

The last three are the Pacific species and all are found on the flowers of Elder (*Sambucus*).

The following additions to the Library of the American Entomological Society were announced:—

Proceedings of the Zoological Society of London. 1880. Part 3. From the Society.

Journal of the Linnean Society of London. Nos. 80—83. From the Society.

Entomologist's Monthly Magazine. No. 202. From the Conductors.

Canadian Entomologist, vol. xiii, No. 2. From the Editor.

American Naturalist, vol. xv, Nos. 1 and 2. From the Editors.

Journal of the Royal Microscopical Society. Series ii, vol. i, Part 1. From the Society.

Psyche, vol. iii, No. 78. From the Editors.

Orange Insects; a treatise on the Injurious and Beneficial Insects found on Orange Trees of Florida, by W. H. Ashmead. From the Author.

Bulletino della Societa Entomologica Italiana, 1879 and 1880. From the Society.

Note sur le genre *Macroderes* Westwood, par A. Preudhomme de Borre. From the Author.

Quelques mots sur l'organisation et l'histoire naturelle des Animaux Articulés, par A. Preudhomme de Borre. From the Author.

Note on a new Northern Cutting Ant, *Atta septentrionalis*.—Notes on the Architecture and Habits of the American Slave-making Ant, *Polyergus lucidus*, by Rev. H. C. McCook. From the Author.

APRIL 8, 1881.

Vice-Director Dr. HORN in the chair.

The Publication Committee laid upon the table signatures 3 and 4 (pages 17—32) of volume ix, of the Transactions of the American Entomological Society, and signature 1 (pages 1—8) of the Proceedings of the Section, printed since the last meeting.

The Publication Committee reported that the Printing Press belonging to the American Entomological Society, had broken down after a use extending over 19 years, and in such a manner as to render it of no further use. The printing will not, however, be delayed but for a short time, as the Committee expect soon to be in possession of a new press of an improved kind.

In behalf of Mr. W. H. Ashmead, Dr. Horn presented the following paper, entitled

On the CYNIPIDOUS GALLS of Florida.

BY WILLIAM H. ASHMEAD.

Jacksonville, Florida.

[PAPER No. 1.]

Having been engaged during the past winter on a study of the cynipidous galls of Florida, I propose to give the results of my investigations in some short papers.

As comparatively little of importance has been published respecting the galls of the live oak *Quercus virens*, I make that the subject of my first contribution:

THE GALLS OF THE LIVE OAK, *Quercus virens*.

Of the many curious galls affecting this tree, the first to which I wish to call attention is one which may be designated by the popular name of

The Live Oak Pea Gall.

Baron Osten Sacken was the first to give an account of it twenty years ago in his paper entitled, "On the Cynipidæ of the North American

Oaks and their Galls," p. 57, published in the Proc. Entom. Soc. Phila. 1861. He says:

"*Quercus virens*, Live Oak.—Small, globular galls on the under side of the leaf. Diam. 0.15 to .2." Pale brownish when ripe; filled inside with a spongy, cellular mass, which is more dense than that of the preceding (*C. confluens*), and not unlike the pith of a reed in texture. Single kernel in the centre.

"I am indebted for these pretty galls to Dr. Foreman, who brought them from Georgia, and although I do not know the fly, I have no doubt, from the structure of the gall that it is the produce of a *Cynips*."

In this supposition my researches prove him to be correct. Early this winter, I procured specimens of this gall from a tree, the leaves of which were literally covered with them, and from which I have bred the gall-fly and its parasites, the latter will be described in a future paper.

***Cynips q. virens* n. sp.**

Galls.—Small, globular, the size of a pea or slightly larger; from two to ten, attached to the under side of the leaf; pale brownish in color, filled inside with a dense, yellowish-brown, spongy, cellular mass. A single kernel in the centre. Diameter 0.15 to 0.25 inch.

Gall-Fly.—♀.—Length .15 inch. Head reddish-brown, finely punctate, pubescent; mandibles black; antennæ 13-jointed, reddish-brown, first two joints somewhat fulvous, nearly connate, third longest, about five times as long as second, following joints gradually decreasing in size, excepting thirteenth which is slightly longer than twelfth and infuscated; thorax brown, coarsely punctate, pubescent; parapsidal grooves distinct, two longitudinal grooves on præscutellum blackish; scutellum round very finely rugoso-punctate, pubescent; wings hyaline and remarkably long, veins brownish and thick, radial area almost closed, areolet distinct, petiolated, abdomen dark reddish-brown, all segments visible, basal half of second light reddish; legs light reddish-brown, posterior femora slightly infuscated.

Described from one bred specimen. Although I have nearly two hundred specimens of the galls in boxes, I have raised but a single *Cynips*, and that issued from the gall early in February.

The Live Oak Potato Gall.

By the above name I designate a gall which is found quite abundantly on the twigs and branches. It is evidently the same mentioned by Baron Osten Sacken (loc. cit. p. 259, 1862). He says:

"*Quercus virens*, Live Oak.—Woody swellings on the limb. The specimen communicated by Mr. Glover is a fragment of a branch about one and one-half inches long, with two such swellings; the one is rounded about 0.7 long and 0.5 broad; the other much smaller. I opened the latter and found on the inside a small hollow from the structure of which I have no doubt that the gall is the produce of a *Cynips*."

I obtained specimens of this gall early in January and February, and have succeeded in raising several of the flies. Many of these galls are picked by birds and gnawed by mice; both of which evidently highly esteem the rich, juicy morsel within.

Cynips q. batatoides n. sp.

Galls.—Abrupt, potato-like, irregular swellings of the twigs and branches, varying in size and form, from 0.4 to 0.7 and sometimes an inch long, and 0.3 to half an inch or more broad; the outer surface is rough of the same color as the bark; internally it is white and in consistency not unlike a potato. No kernels; each insect separated by a very thin, hardly perceptible parchment-like substance. In one of the galls I counted fifteen gall-flies.

Gall-Fly.—♀.—Length .12 inch. Head brownish-red, finely punctate, slightly pubescent, mandibles bidentate, tips black; palpi yellowish; antennæ 15-jointed, reddish-brown, joint third not quite thrice as long as first and second combined, joints four to eight subequal, nine to fifteen about equal, terminal joint smallest; thorax more coarsely punctate, brownish-red, covered with fine, short, whitish pubescence, parapsidal grooves indistinct, two longitudinal grooves; scutellum rugoso-punctate, slightly ridged, ridge more perceptible anteriorly and blackish; wings hyaline, veins black, radial area open, areolet distinct, petiolated; abdomen smooth and polished, of a uniform reddish-brown; legs yellowish or yellowish-red, thighs, coxæ and trochanters darker, feet black.

Described from numerous bred specimens all females.

The structural characters of this species indicate the possibility of its belonging to Giraud's genus *Drycosmus*, as defined by Baron Osten Sacken, (loc. cit. 4th article, p. 337).

The Bud-like Gall of the Live Oak.

This gall seems to have been entirely overlooked by all observers; it is difficult to see why, for although not nearly so plentiful as the previously described species, it is yet by no means rare and quite noticeable upon the ends of the twigs.

Cynips q. succinipes n. sp.

Galls.—Clusters of from five to twenty small galls crowded around a terminal twig or branch; globular or bud-like in form; externally yellowish-brown with a surface like buckskin, becoming black with age; internally hard and tough with a single kernel hard and smooth. Diameter from .10 to 0.2 inch.

Gall-Fly.—♀.—Length .14 to .15 inch. Brownish-red; head brown, finely granulated, face densely covered with rather long whitish or yellowish-white pubescence, more sparsely covered on vertex, ocelli black, smooth, shining; antennæ 13-jointed, reddish-brown, pubescent; third joint thrice as long as second, slightly infusated, fourth joint nearly as long as third, seventh to twelfth about equal; thorax reddish-brown rather densely pubescent, two black subdorsal vittæ

extending from middle of mesothorax forward to collar in straight line with outer ocelli, parapsidal grooves distinct, brownish-black, two small grooves between these and just back of the black vittæ, converging towards scutellum not quite reaching hinder edge; the grooves are blackish and also the surface of the mesothorax a short distance along their edge; scutellum roundish, punctate and pubescent; wings hyaline, veins brownish all strongly defined, radial area nearly closed, areolet closed, the closing vein very pale; legs a clear amber pubescent; abdomen dark brown, smooth and shining basal part of the second segment reddish.

Described from one bred specimen.

The Leafy Gall of the Live Oak.

Another curious and by far the most interesting gall I have yet found in Florida, is that to which I have given the above name. Growing as it does in the bud axil of the leaf, and not unfrequently in close proximity to the others, the gall would naturally be taken by most observers for the blossom of the oak; indeed I never until lately suspected it to be the product of a *Cynips*.

On page 72, vol. 2, of "The American Entomologist," is figured a gall discovered by H. F. Bassett, so well known for his researches in this interesting branch of entomology, which will give one a fair idea of the species under consideration.

At first I was inclined to believe my species and his, which he calls *Cynips frondosa* identical; but on a careful study of his description of the gall, (he does not characterize the insect producing it), I have no hesitancy in describing it as new.

Mr. Bassett found his species at Waterbury, Conn., on the Chinquapin Oak, *Q. prinoides*, while Walsh found it on the Bur Oak and White Oak; vide Proc. Entom. Soc. Phil. p. 68, 1864.

He says: "When mature it often attains a diameter of two and a quarter inches, and the modified leaves of which it is composed are then much longer and proportionally much wider than at first, so that instead of being what the botanists term 'lanceolate,' they become oval with their tips usually acute."

Bassett says: "The cells containing the larva are smooth, shining, oval, about one-eighth of an inch long."

Walsh also says: "The larger ones enclose four or five cells and when the gall becomes mature, the cells are gradually disengaged from their leafy matrix and drop to the ground, where no doubt the larva will pass the winter more agreeably among the masses of dead leaves, which accumulate in such situations, than it would do if it were exposed aloft to the stormy blasts, and the cold driving sleet of the dead season of the year."

Now, the largest specimen I have ever found of the present gall, and I have collected hundreds, is never more than three-quarters of an inch in diameter, and instead of the leaves being oval, they are strictly lanceolate; the cells or kernels too, instead of being smooth, are pitted, somewhat like a peach stone. They likewise never drop to the ground, but remain cemented to their cup, and the fly escapes by perforating a hole in the top. I have found hundreds of the black dry galls containing cells so perforated, and have never seen more than *one cell to a gall*.

Cynips q. foliata n. sp.

Galls.—In outline urn-shaped, composed externally of numerous, lanceolate, leafy-like spines, developed from the axillary leaf bud; diameter one-half to three-quarters of an inch; internally consisting of a greyish acorn-like cup, with a single kernel imbedded half way; cup .20 inch in diameter. Kernel brownish .15 to .18 inch long by .07 to .10 wide, somewhat pointed at top and slightly contracted in the middle, irregularly pitted and grooved, somewhat like a peach stone only the grooves are not so deep.

Gall-Fly.—♀.—Length .12 of an inch. Head brown, face to mandibles covered with rather short, thick, white pubescence, a series of grooves or aciculations converging towards mandibles, the latter black vertex rugoso-punctate, free from pubescence, palpi yellowish, terminal joint slightly infuscated at tip; antennæ 13-jointed, brownish-red, third joint twice as long as second, others to tenth subequal, tenth, eleventh and twelfth very short, about equal, thirteenth not quite twice as long as twelfth; mesothorax and scutellum reddish-brown, rugoso-punctate, covered with short whitish pubescence, parapsidal grooves distinct, brownish, two short subdorsal grooves starting from collare and extending backwards not quite to middle of thorax; abdomen smooth, bright, shining reddish-brown; legs yellowish-red, feet and coxæ brownish or blackish; wings hyaline, veins yellowish, radial area open, areolet none.

Described from numerous bred specimens.

The Live Oak Woolly Gall.

This unique and beautiful little species approaches nearest to the one described by Dr. Fitch, (see Ann. Report N. Y. State Agri. Soc. Fifth Report, p. 814), under the name of *C. q. lana*, readily distinguished from it, however, by size, coloration and in having but 14-jointed antennæ.

Cynips q. lanigera n. sp.

Gall.—Small, flattened, circular or irregular tufts of rather long whitish or ferruginous wool, on the under parts of the leaf; attached generally to the principal vein and covering from two to six small, irregular, smooth brownish seed-like kernels, .06 to .08 inch in diameter. Diameter of woolly covering .02 to .03 inch.

Gall-Fly.—♀.—Length .06 to .08 inch. Head, thorax and legs a beautiful bright yellow testaceous, finely granulate; ocelli and eyes bluish-black, a yellowish dot in centre of each, a few short, whitish hairs on face, antennæ 14-jointed, testaceous, infuscated from fourth joint, apical joint slightly longer than penultimate; thorax finely granulate; two deep smooth pits at base of scutellum and separated from mesothorax by a small narrow brownish ridge, also margined posteriorly with same; wings hyaline, hind ones slightly iridescent, veins brown, radial area open, the branch of subcostal not quite reaching costal edge, areolet none; abdomen yellowish brownish on dorsum, smooth and shining, sutures of segments somewhat darker giving it a banded appearance when fresh, fading out when dry.

Described from five bred specimens.

The Live Oak Fig Gall.

"*Quercus virens*, Live Oak.—Clusters of galls crowded together round a limb, not unlike *Cynips q. ficus*, Fitch in appearance, but much harder."

The above gall, as described by Osten Sacken, is very abundant here and no doubt will prove identical with Dr. Fitch's *C. q. ficus*.

The following additions to the Library of the American Entomological Society were announced:—

Canadian Entomologist, vol. xiii, No. 3. From the Editor.

Psyche, vol. iii, No. 79. From the Editors.

Cistula Entomologica, Pars xxiv, February, 1881. By purchase.

Proceedings of the Academy of Natural Sciences, Part 3, 1880. From the Academy.

Species des Hyménoptères d'Europe and d'Algérie, par Ed. André, vol. i, Nos. 1—8. From the Author.

Proceedings of the Entomological Section of the Academy of Natural Sciences, 1881, pp. 1—8. From the Publication Committee.

MAY 13, 1881.

Director Dr. LeCONTE in the chair.

The Publication Committee laid upon the table (pages 33—48) of volume ix, of the Transactions of the American Entomological Society, printed since the last meeting.

The Publication Committee reported that work had been resumed on the Transactions and Proceedings. A new press of a much improved model had been procured, and while the impression consisted of but two pages the work can be more expeditiously and cheaply done than by the old press. The same standard of good presswork will be maintained and the reputation which our publications have attained as one of the best printed scientific serials, will still continue.

The old press is broken in such a manner as to render its repair more costly than the Committee at first realized and it was resolved to abandon it entirely. This old press has now been in use about nineteen years, doing all the work on five volumes of the Proceedings and eight of the Transactions and two of the Practical Entomologist, beside much other miscellaneous entomological printing.

It was the gift of Dr. Thomas B. Wilson, and with the full supply of type the Committee have been enabled to continue to the present year without either much repair to press or renewal of type. Our present volume (vol. ix), however, begins with an almost entirely new supply of type.

The Committee hope to complete a volume with the present year, with at least three hundred pages, and from the information in our possession the number of plates will be as great or greater than in any preceding volume.

In behalf of the author, Dr. Horn presented the following paper, entitled

On the CYNIPIDOUS GALLS of Florida.

BY WILLIAM H. ASHMEAD.

Jacksonville, Florida.

[PAPER No. 2.]

GALLS ON CATESBY'S OAK, *Quercus catesbæi*.

I have found two galls on this oak from only one of which have I been able to breed the flies. This, however, is quite an interesting little species.

***Cynips q. Catesbæi* n. sp.**

Galls.—Slight wavy swellings at the base of tender new shoots, hardly visible to the naked eye.

Gall-Fly.—♀.—Length .06 inch. Head and thorax black, opaque, finely rugoso-punctate, not pubescent; antennæ 15-jointed, yellowish-red; parapsidal grooves distinct, two longitudinal grooves converging towards scutellum, a slight longitudinal fovea in centre between parapsidal and longitudinal grooves, pleuræ aciculate; scutellum round, coarsely punctate and bifoveolate; abdomen black, smooth and shining, ventral valve long and projecting, ovipositor exerted; wings hyaline, radial area open, no areolet and no secondary veins, subcostal vein hardly yellowish at base and becoming almost hyaline; legs yellowish-red, hind tibiae slightly infuscated.

♂.—Length .06 inch. Antennæ 16-jointed; veins of wings almost hyaline, areolet half closed; abdomen with a short peduncle, ovate, description otherwise as ♀.

Described from 3 ♀♀ and 1 ♂, bred April 28th, from galls as described above.

The only other *Cynips* with 16-jointed antennæ known to me, is

Cynips q. singularis Bassett, described in Proc. Entom. Soc. Phila. vol. 2, p. 326, from galls on the leaves of *Quercus rubra*.

THE GALLS OF THE WATER OAK, *Quercus aquatica*.

Three or four galls are found on this oak. The first may be known as

The Woolly Gall of the Water Oak.

Cynips q. Turnerii n. sp.

Galls.—Globular, wooly galls, the size of an oxheart cherry, attached to the aments of *Quercus aquatica*. Externally covered with dense, fine, rather long wool, white at first, but becoming rusty with age; internally consisting of numerous, triangular seed-like kernels, each kernel containing two cells. Length of kernel .12 inch. Diameter of gall one-half inch.

Gall-Fly.—♀.—Length .07 inch. Head and abdomen reddish-brown; thorax darker brown. Head finely punctate, not pubescent, palpi pale yellowish, tips of mandibles black; antennæ 13-jointed, long filiform, third joint longest, others gradually decreasing in size, slightly infuscated towards tip; thorax finely punctate, slightly rugoso-punctate towards scutellum, parapsidal grooves distinct, two distinct longitudinal grooves converging slightly towards scutellum, pleuræ punctate, slightly aciculate basally; scutellum round, bifoveolate, rugoso-punctate and free from pubescence; abdomen large globose, light reddish-brown, smooth and shining, last ventral valve projecting but slightly; wings hyaline, no areolet and radial area, only subcostal and radial branch, other veins wanting; legs reddish-brown, coxæ, femora and tibiæ punctate, posterior femora and tibiæ darker.

Described from three bred specimens which issued from galls April 28th.

This interesting gall, I take pleasure in naming after my friend Dr. R. S. Turner of Fort George, Florida, who was the first to bring me specimens. I have, however, since found it quite abundantly on several trees in Jacksonville.

Two other globular wooly galls are known to me, *Cynips q. seminator* Harris, and *Cynips q. operator* Osten Sacken. My species may at once be distinguished from these by its smaller size and by having but 13-jointed antennæ in ♀. *C. q. operator* is ♀ 12-jointed antennæ, .12 to .13 inch. *C. q. seminator* ♀ 14-jointed antennæ, black, and .11 inch.

The Water Oak Plum Gall.

Cynips q. aquaticæ n. sp.

Galls.—Globular, hollow, succulent galls, of a plum color, growing through the leafy expansion of the newly formed leaf, projecting about equally from the upper and on the under surface of the leaf, containing a yellowish, slightly elongated kernel, which rolls freely about. Diameter .35 to .40 inch.

Gall-Fly.—♀.—Length .10 of an inch. Head black, finely punctate, a slight depression at base of front ocelli, a few microscopical short whitish hairs on face, mandibles black, palpi whitish; antennæ 15-jointed, yellowish-red, infuscated from

fourth joint, joints regularly subequal, last joint being longer than penultimate; thorax black, smooth and shining, parapsidal grooves distinct, converging towards scutellum and separated from it by a slight ridge; scutellum punctate; abdomen longer and wider than thorax, black, smooth and shining; legs reddish-yellow, tibiae to feet paler, basal half of coxæ black; wings hyaline, radial area open, areolet distinct, veins black.

♂.—Length .08 inch. Mouth parts brownish, scutellum coarsely rugoso-punctate, peduncle long; legs yellowish-brown, coxæ yellowish, feet black.

Described from numerous specimens raised in March.

THE GALLS OF THE WILLOW OAK, *Quercus laurifolia*.

This particular species of oak is classified by botanists as a variety of *Quercus phellos*, and from it I have obtained nine distinct species of galls.

The Cherry Stone Leaf Gall.

This popularly designates a unique gall that appears early in February and March, on the tender new leaves—frequently three on a leaf. It may possibly be the one referred to by Prof. Westwood as described by Bosc, from Georgia, vide Intro. Entom. vol. 2, p. 131, ed. 1840. He says:

“Another gall of the size of a pea, found on another species of oak has the outer surface very thin, and encloses in the interior a small ball the size of a grain of millet which rolls about, and within which the larva is lodged. M. Bosc opened hundreds of these galls without being able to learn the true nature of this production.”

Baron Osten Sacken, loc. cit. p. 62, discovered a similar gall *Cynips q. palustris* on *Quercus palustris*. My species is at once distinguished from it by having 14-jointed antennæ in ♀, in punctuation, coloration, by the veins of wings being black, and by the long bent peduncle in the ♂. It evidently belongs to Hartig's genus *Spathegaster*.

Spathegaster q. laurifolia n. sp.

Galls.—Green, globular, hollow galls, growing through the leafy expansion of the newly formed leaf, projecting about equally from the upper and on the under surface of the leaf, the size of a cherry stone and when removed not unlike it in shape, containing a yellowish, slightly elongated kernel, which rolls freely about. Length .20 to .25 inch, .15 or more through.

Gall-Fly.—♀.—Length .10 inch. Black, head slightly but faintly punctured, mouth parts reddish, palpi yellowish; antennæ 14-jointed, joints one and two yellowish, others dark reddish-brown, pubescent, third joint nearly thrice as long as second; thorax smooth but appearing microscopically punctate with a high power, parapsidal grooves moderately distinct, longitudinal furrows distinct; scutellum deeply rugoso-punctate, opaque and slightly hairy; abdomen globose, smooth, black and highly polished; wings hyaline, veins black; legs yellowish-red, posterior coxæ excepting apex and feet black.

♂.—Length .08 inch. Antennæ 15-jointed: elevated and projecting posteriorly,

wings very long reaching way beyond tip of abdomen; abdomen small triangular, compressed, with a very long peduncle, slightly bent downwards before the middle; otherwise as in female.

Described from over one hundred specimens bred in March.

On a ♂ cynips, clinging to the long curved peduncle, I detected a curious gamasid mite but 0.2 mm. long. It was of a reddish-brown color, oval, coriaceous and pubescent; with eight remarkably long hairy legs, the posterior pair being longest, and the cephalothorax separated from the abdomen by a transverse suture and with the head rather pointed. It evidently belongs to the genus *Sejus* and may be known as *Sejus cynipidis*.

Another curious gall, constructed on the same principle as above but smaller and not projecting through the leaf, was detected the middle of April.

Cynips q. confusa n. sp.

Galls.—Small, globular, slightly elongate, greenish-yellow, succulent galls, attached to the principal vein on the under surface of the leaf, hollow inside with a pupa-like kernel; fly escaping by perforating a hole through the upper surface of the leaf. Diameter transversely .06; vertically .10 inch.

Gall-Fly.—♀.—Length .07 inch. Black, head finely and evenly punctate; antennae reddish-yellow, 14-jointed, third joint longest, joints to eighth subequal, others short and equal, terminal twice as long as penultimate; thorax rugoso-punctate, parapsidal grooves distinct, two longitudinal grooves converging posteriorly; scutellum deeply rugoso-punctate, slightly elevated posteriorly and depressed and with a large deep fovea at base, not pubescent; pleuræ deeply aciculate; wings hyaline, veins reddish-brown, areolet nearly closed, radial area open; abdomen black and highly polished, last ventral valve projecting; legs reddish-yellow, coxæ black.

Described from 2 ♀ specimens bred the last of April.

Another gall found on the under surface of the leaves, produces a very roughly punctured cynips which may be known as

Cynips q. rugosa n. sp.

Galls.—Semispherical, greenish-yellow, smooth, hard galls, attached to the under surface of the leaf, slightly contracting the leaf on the upper surface, but not projecting, either flat or slightly concave; internally consisting of a hard fibrous substance in the centre of which the larva is transversely placed; fly escaping by perforating a hole through the upper surface of the leaf. Diameter transversely .20 inch; through or vertically .08 to .10.

Gall-Fly.—♀.—Length .14 inch. Head and thorax dark reddish-brown, very coarsely rugoso-punctate. Head, longitudinally narrow, ocelli almost in a straight line, vertex free from pubescence, face covered with short whitish pubescence,

a depression extending from base of each antennæ to mandibles, the latter black, pubescent back of eyes, palpi yellowish; antennæ 14-jointed, uniformly reddish-yellow, terminal joint longer than penultimate; thorax convex, rounded anteriorly almost free from pubescence, parapsidal grooves distinct, longitudinal furrows almost obsolete, mesothorax much broader than long, a ridge separating it from scutellum; pleuræ rugoso-punctate; scutellum round, bifoveolate, rugoso-punctate, thickly pubescent; wings hyaline, areolet distinct, petiolated, radial area open, costal and subcostal veins yellowish, becoming thick and brownish piceous at areolet; abdomen large, globose, bright shining reddish-yellow, peduncle short, it and second segment at base slightly pubescent; tips of ventral sheath yellowish, pubescent; legs reddish-yellow, coxæ brownish-black, punctate, pubescent, feet and claws black.

♂.—Length .10 inch. Head and thorax black, coarsely rugoso-punctate, vertex free from pubescence; antennæ reddish-brown, 15-jointed, filiform, joints subequal; thorax, parapsidal grooves distinct, longitudinal furrows obsolete; scutellum coarsely rugoso-punctate and almost free from pubescence; abdomen black, smooth and shining, peduncle short; wings hyaline, veins black, areolet almost closed, slightly clouded at base of areolet, radial area open; legs—middle and anterior pair yellowish, coxæ black, hind femora and tibiæ dark.

Described from 23 bred ♀ ♀ and 4 ♂, which issued between 25th and 30th of April.

THE GALLS OF THE UPLAND WILLOW OAK, *Quercus cinerea*.

There are several galls found on this tree, but by far the most important is a large spherical gall, which may popularly be termed

The Upland Willow Oak Apple Gall.

Cynips q. cinerea n. sp.

Galls.—Large, perfectly spherical galls attached to the twigs and limbs, of a dark crimson color mottled with small spots of a lighter color. A single kernel in the centre held in place by dense, brownish, spongy filaments. Diameter one and one-fourth to one and one-half inch.

Gall-Fly.—♀.—Length .20 inch. Robust .07 inch across the mesothorax, length of wing .20 inch. Head and thorax brown, deeply, very coarsely rugoso-punctate. Head small, on vertex slightly pubescent, thicker back of the eyes, almost free on face; eyes dark brown; mandibles black; antennæ 13-jointed, short not reaching to back of scutellum; thorax broad, robust, convex, parapsidal grooves almost obsolete, longitudinal furrows wide apart and almost parallel, indicated by coarse punctures, a deep transverse furrow dividing mesothorax from scutellum, a few microscopical whitish pubescence towards head, disk free; scutellum round, elevated, deeply irregularly rugoso-punctate, free from pubescence, excepting a few microscopical whitish hairs more perceptible at posterior margin, two deep round foveæ not quite separated by the pointed process of the scutellum, which does not reach the margin, pleuræ rugoso-punctate, pubescent, as well as the triangular piece beneath the wing and the metathorax; abdomen bright, smooth, reddish-brown, globular and regularly rounded posteriorly, a high ridge at base of second segment, slightly pubescent, more noticeable at sides and beneath, a high power show the segments are finely punctate, ventral sheath not projecting, venter hairy

the whole length; wings hyaline, rather hairy, veins reddish, areolet closed, radial area open, a large brown blotch occupying basal half of radial area and apical third of areolet, also extending slightly along the cubitus; basal vein thick and clouded with brown; anal vein brown from opposite tip of areolet; tip of radial vein pale, subcostal vein becomes brown as it approaches basal vein and becomes pale again just before joining the large brown blotch; legs reddish-brown, pubescent.

This no doubt will prove to be related to the dimorphic group of *Cynips*—*spongifica*, *aciculata*, etc.

I noticed smaller galls on the trees during the winter, but all were empty and have produced nothing but Chalcid flies—*Callimeme*, *Pteromalus*, &c.

The summer galls will probably produce the two gendered form.

The following additions to the Library of the American Entomological Society were announced:—

Second Report of the U. S. Entomological Commission for the years 1878 and 1879, relating to the Rocky Mountain Locust and the Western Cricket. From the Commission.

Report on Insects injurious to Sugar Cane, by J. Henry Comstock. From the Author.

List of Orthoptera collected by Dr. A. S. Packard Jr., in the Western United States, in the summer of 1877, by S. H. Scudder. From the Author.

Notes on North American Microgasters, with descriptions of new species, by C. V. Riley. From the Author.

Canadian Entomologist, vol. xiii, No. 4. From the Editor.

Entomologist's Monthly Magazine, Nos. 203 and 204. From the Conductors.

Psyche, vol. iii, No. 80, December, 1880. From the Editors.

Annual Report of the Entomological Society of the Province of Ontario, for 1880. From the Society.

Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien, vol. xxx. From the Society.

Mittheilungen der Schweizerischen Entomologischen Gesellschaft, vol. vi, No. 3. From the Society.

Species des Hyménoptères d'Europe and d'Algerie, par Ed. Andre, vol. i, No. 9. From the Author.

Jahres-Bericht des Naturhistorischen Vereins von Wisconsin, for 1880—81. From the Society.

Sitzungs-Berichte der naturwissenschaftlichen Gesellschaft Isis in Dresden, von Carl Bley, 1880. From the Author.

JUNE 13, 1881.

Director Dr. LeCONTE in the chair.

The Publication Committee laid upon the table pages 49—64 of volume ix of the Transactions of the American Entomological Society, and also pages ix—xx of the Proceedings of the Section, printed since the last meeting.

Dr. LeConte desired to record the following notes of synonyms and habits of Coleoptera.

Cicindela Sommeri Mannh.—This common Mexican species was found by Mr. H. Edwards, at San Diego, Cal.

Carabus truncaticollis Eschsch.—Occurs in the higher parts of the Sierra Nevada, Cal., (H. Edwards).

Axinopalpus Lec.—Ann. Lyc. Nat. Hist. N. Y. v, 174, (1846), has priority over *Variopalpus* Sol., Gay, Chili, iv, 148, (1849). The confusion in this synonym has been produced by a typographical error in the Munich Catalogue, in which the date attributed to my genus is printed 1851 instead of 1846. The verbal expansion of the name to *Axinopselaphus* seems unnecessary and scholastic.

Patrobis rugicollis Randall.—Telluride, Ouray Co., Colo.; (Reinecke). The western extension of this species is quite unexpected.

Agyrtes longulus Lec., has been found in Maryland by Mr. Ulke. Previously known only from the Pacific coast.

Platycerus Agassii.—I have seen quite a large number of specimens of this species, but have not observed any sexual characters worthy of note. Mr. Edwards has kindly given me a specimen, which by the greater length of the antennal lamellæ is evidently a ♂. The ninth and tenth joints of the antennæ are more than twice wider than long; the mandibles are slightly more prominent; the legs are longer and thinner; the tibiæ are less strongly toothed and the tarsi are as long as the tibiæ, while in the ♀ they are about one-third shorter. The prothorax is less dilated on the sides and less constricted at the base than in the ♀.

Gyascutus Lec., seems hardly sufficiently distinct from *Latipalpis* Sol., to be worthy of retention as a separate genus.

Pterotus obscuripennis Lec.—Flying at dusk. Berkeley, Cal.; (Rivers).

Cyllene picta.—An enormous number of individuals of this species were developed from a pile of hickory wood in the cellar of a friend in this city, in the latter part of April and beginning of May. The sawdust from the burrows in the wood might be measured by bushels, while the perfect insects invaded all parts of the house, becoming a great nuisance.

Luperus varipes Lec.—Berkeley, Cala.; on Teucrium; (Rivers).

Tychius lineellus Lec.—Berkeley, Cala.; on Lupinus; (Rivers).

Rhyncolus angularis Lec.—Berkeley, Cala. In decayed wood of buck-eye, also on Teucrium; (Rivers).

Micracis aculeatus Lec.—Washington, D. C.; in willow twigs; (Ulke).

Thysanoes n. sp.—Washington, D. C.; in oak twigs; (Ulke).

Dr. LeConte also mentioned an extraordinary change of color dependent on emotion or nervous excitement, which he had observed in some living specimens of *Coptocyclus aurichalcea*, which he had recently received from Dr. M. Goldsmith, Rutland, Vt., by whom they were found perforating holes in the leaves of *Ipomaea*. The specimens not only varied greatly in color, some having the elytral disc black with golden spots, while in others (var. *pallida*), the whole disc was golden, but when frightened, the gold color disappeared completely, and the insects assumed the same dull reddish-yellow which they have when preserved in collections. In recovering their metallic color they passed through various grades of bluish-pearl and violet, until they again became bright golden. This phenomenon, which so far as Dr. LeConte knew, had not been heretofore recorded, and to which his attention has been called by Dr. Goldsmith, is a very singular one, and deserves the careful observation of microscopists.

Dr. Goldsmith has also observed that the difference between these two reputed distinct species is sexual, the *guttata* form having a black disc with golden spots being the ♂, very similar to *C. guttata*.

He placed one of the spotted individuals under a glass with two of those having a uniformly disc. After a short time amatory relations were established between the former and one of the latter. What occurred subsequently is thus narrated:

“Mr. *spotted-back* forthwith became of a greenish-gold, and Mrs. *pallida* a yellowish-gold. The other Miss lost her beauty and became the dingy thing she is on wash days. I uncovered the vessel and somewhat rudely disturbed their beatitude, and immediately Mr. and Mrs. both assumed their ordinary wash day clothes. The fact is, gold and jet are the colors of the male when undisturbed, greenish-gold in copula, and dingy when disturbed. Both when recovering from fright become at first a beautiful glistening purplish mother-of-pearl, then the male gold and jet, and the female gold.”

These interesting observations may serve to diminish the very large number of nominal species in the books.

Dr. Horn exhibited the drawings which form the eight plates to accompany the paper presented for publication. Special attention was called to those figures which illustrate the definition of the families composing the Adephagous series of Coleoptera, a discussion of this matter being necessary before a consideration of the Carabidæ. This, Dr. Horn said, was necessary in consequence of the diverse opinions expressed by various authors concerning *Amphizoa*, *Pelobius* and *Haliplus*. By well defined structural characters not hitherto observed it was shown that these are really types of distinct families equivalent to the Carabidæ or Dytiscidæ. Dr. Sharp in a late paper had included *Amphizoa* and *Pelobius* in the Dytiscidæ while Chaudoir's latest opinion was in favor of retaining the former in the Carabidæ.

Dr. Horn stated that he regretted to differ so completely with such eminent authority, but the characters in which these genera differ from all others of the Adephagous series are of such an important nature that he insisted on maintaining the view originally expressed by Dr. Leconte of the position of *Amphizoa*.

Attention was also directed to two finished plates illustrating genera of the Serricorn series, the text being nearly completed by our printer.

Dr. Horn announced the decease of Baron de Chaudoir, an eminent Coleopterist of Europe and a corresponding member of the American Entomological Society.

The following additions to the Library of the American Entomological Society were announced:—

Anniversary Memoirs of the Boston Society of Natural History published in celebration of the 50th Anniversary of the Society's foundation, 1830—1880. From the Society.

Transactions of the Kansas Academy of Sciences for 1879—80, vol. vii. From the Academy.

Proceedings of the Linnean Society of New South Wales, vol. v, parts 1, 2 and 4. From the Society.

Journal and Proceedings of the Royal Society of New South Wales, 1879, vol. xiii. From the Society.

Journal of the Royal Microscopical Society, April, 1881. From the Society.

Entomologist's Monthly Magazine, No. 205, June, 1881. From the Conductors.

Berliner Entomologische Zeitschrift herausgegeben von dem Entomologischen Verein in Berlin, 1881, No. 1. From the Society.

Deutsche Entomologische Zeitschrift herausgegeben von der Deutschen Entomologischen Gesellschaft, 1881, No. 1. From the Society.

Verhandlungen des naturforschenden Vereines in Brünn, vol. xviii, 1879. From the Society.

Bullettino della Società Entomologica Italiana, vol. xiii, No. 1. From the Society.

Entomologische Miscellen herausgegeben von dem Verein für schlesische Insektenkunde, Breslau, 1874. From the Society.

Zeitschrift für Entomologie herausgegeben vom Verein für schlesische Insektenkunde zu Breslau, Heft. iv, Sept., 1874. From the Society.

Papilio: organ of the New York Entomological Club, vol. i, Nos. 1—5. From the Club.

JULY 8, 1881.

Vice-Director Dr. HORN in the chair.

The Publication Committee reported favorably the following paper presented at the last meeting for publication in the Transactions of the American Entomological Society:—

“On the genera of Carabidæ with special reference to the fauna of Boreal America,” by George H. Horn, M. D.

The Publication Committee laid upon the table pages 65—88 of volume ix of the Transactions of the American Entomological Society printed since the last meeting.

In behalf of the author, Dr. Horn presented the following paper, entitled

On the CYNIPIDOUS GALLS of Florida.

BY WILLIAM H. ASHMEAD.

Jacksonville, Florida.

[PAPER No. 3.]

The Live Oak Root Gall.

This interesting gall was discovered the latter part of March. A workman ploughing around a live oak, *Quercus virens*, noticed some curious galls on the roots and called my attention to them. A careful search soon revealed great quantities, always on the small rootlets running along just beneath the surface. On pulling up these roots, I discovered a series of gall clusters every four or five inches apart, and have bred from them nearly two hundred specimens, ♂ and ♀ flies. These are the first authentic oak root galls discovered in the United States.

Biorrhiza niger, Fitch, discovered on snow probably produces galls on oak roots; but the galls have not yet been found.

As my species presents characters widely different from any cynipidous genera known, I propose to erect a new genus for its reception. Like *Biorrhiza niger*, it secretes, when handled, a strong waspy odor.

DRYORHIZOXENUS n. g.

Form slender; maxillary palpi 6-jointed, labial palpi 4-jointed, the third joint globular; mandibles tridentate, outer two teeth acute, inner one obtuse; areolet closed, radial area open, radial vein regularly curving upwards and thickening at tip.

♀.—Antennæ 14-jointed, filiform, pubescent, first joint stout, attached to the head by a short peduncle, second small, moniliform, third longest, slightly curved and excised, thickest at tip, the following subequal in length, uniform in thickness, terminal joint longer than penultimate, *all the joints from the fourth have a narrow bead-like annulus at tip*, quite noticeable in living, almost obsolete in dry specimens. Abdomen globose, smooth and shining, with a very short peduncle, second segment occupying half the portion of the surface; ovipositor exerted slightly beyond tip of abdomen; ventral valve well developed and projecting considerably, tip of abdomen deeply emarginate; tibiæ somewhat flattened, *armed with two large curved spines* (which are evidently used in digging), *and densely and strongly hirsute*; pleuræ smooth and shining, parapsidal grooves distinct; scutellum of moderate size, longer than wide, rugoso-punctate, depressed and bifoveolate at base, contracted in middle and elevated posteriorly, with the hinder margin round.

♂.—Antennæ 15-jointed, filiform, second joint small, slightly elongated, third longer than in ♀, excised, each joint widening and truncate at tip and without the bead-like annulus. Abdomen long-ovate, attached by a short peduncle, front tibiæ frequently unarmed; otherwise as ♀.

Dryorhizoxenus floridanus n. sp.

Galls.—Clusters of irregular somewhat wedge-shaped, soft, fleshy galls, of the consistency of a potato, surrounding the rootlets of *Quercus virens*, brittle and easily detached, varying in length from one-half to three-fourths of an inch; externally rough, irregular, and of a yellowish color; internally composed of numerous cells one above another, and separated by thick fleshy partitions.

Gall-Fly.—♀.—Length .20 inch. Slender; bright shining brownish-yellow; head finely punctate, eyes, tips of mandibles and ocelli black; antennæ brown, basal joint paler; thorax convex, smooth and shining, two deep longitudinal grooves converging towards scutellum, which is coarsely rugoso-punctate and slightly pubescent, posterior margin dark brown; abdomen smooth and shining; legs brownish-yellow, densely hirsute; wings hyaline, areolet closed, petiolate, radial area open, all the veins dark brown and bordered with brown, the brown border widening at tip of subcostal and radial veins, the blotch not quite reaching outer edge, the anal vein rather straight and thick, broken opposite middle of areolet, the brown border surrounding the broken part and extending along to near the tip of the vein.

♂.—Length .18 inch. Head finely punctate, a slight depression extending from outer ocelli over to eyes; mandibles reddish-brown; palpi paler, a few microscopical hairs on face; antennæ 15-jointed, entirely brown-black; tibiæ and

tarsi less densely hirsute, black and with the tibial spines less strongly developed than in ♀; abdomen elongate-ovate, smooth and shining, second segment occupying half the surface, other segments gradually decreasing in size; otherwise as in ♀.

Described from nearly two hundred bred specimens. The fleshy galls, when dry, are almost unrecognizable from the shrinkage in drying.

The Grape-producing Cynips.

This is a very remarkable *Cynips* producing galls on the under surface of the leaves of *Quercus laurifolia*, which very much resemble small white grapes. They make their appearance early in April, but the flies do not escape until the middle of May.

***Cynips q. racemaria* n. sp.**

Galls.—Spherical, crisp, sour and succulent, attached to the under surface of the leaves, in size and color resembling a small white grape and in consistency not unlike a green gooseberry, with a single reddish kernel in the centre. Diameter .35 to .40 inch

Gall-Fly.—♀.—Length .16 to .17 inch. Black; head rather small, deeply rugoso-punctate, vertex free from pubescence, a tuft of long pubescence back of eyes, face very slightly pubescent; antennæ 14-jointed, black and short, only reaching to tip of scutellum, third joint longest, fourth to eighth subequal, the others equal, terminal slightly longer than penultimate; thorax deeply coarsely and irregularly punctate, almost free from pubescence, requiring a high power to detect any; pleuræ less deeply and coarsely punctate; abdomen large, black and shining, apical half of second segment, and all the other segments excepting at base, finely and densely punctate, a few hairs on second segment, ventral sheath very long; legs reddish-brown, pubescent, coxæ and trochanters black, apical spurs on all legs; wings smoky or brownish-black, apices slightly paler, veins black, areolet closed, radial area open, rather narrow.

Described from numerous bred specimens which hatched in May. No males.

The only other grape-like gall known to me is *Cynips q. sculptus* Bassett, described in Proc. Entom. Soc. Phila. 1863, p. 324. The present species is at once distinguished from it by its smaller size, short 14-jointed antennæ, the difference in shape of joints, color of legs and by the punctation of abdomen.

Cynips q. sculptus is ♀ .20 inch, antennæ 13-jointed very long, legs honey yellow, abdomen entire surface microscopically punctate. It was found by Mr. Bassett on *Quercus rubra*.

The Spine-bearing Potato Gall.

Another potato gall, varying greatly in size, found on the terminal twigs of *Quercus laurifolia*. It very much resembles the live oak potato gall, *Cynips q. batatoides* nob.; but is easily distinguished from it and all others by the spiny, succulent tubes which issue from the

fleshy part of the gall. These often become quite large, but are generally eaten by birds, or become broken off by the swaying of the branch in the storms and winds. As they mature the galls become irregular, crack and turn black with age, ultimately killing the twig upon which they are situated. At this stage there is a small black ant that gnaws into and makes it the abode of her countless progeny.

***Cynips q. clavigera* n. sp.**

Galls.—Abrupt, irregular, woody, tuber-like swellings, varying greatly in size, from a half to an inch and a quarter long by almost the same in width, attached to the terminal twigs and branches; externally (at the beginning of the season), it is smooth and resembles very much the gall of *Cynips q. batatoides*, but later in the season it becomes rough with deep fissures, through which issue spiny, succulent tubes, which secrete a sticky honey-like substance; internally, at first it is white and soft but becomes brown and hard with age; the tubes are thickened at base in the centre of which the larva resides.

Gall-Fly.—♀.—Length .08 inch. Reddish-brown; head and thorax very finely punctate, face slightly aciculate, converging towards mouth; antennæ long, 15-jointed, first joint as long or almost as long as third, second globular, slightly longer than wide, joints four to eight subequal, from nine to fourteen short, equal, apical smallest; thorax, parapsidal grooves distinct, two longitudinal furrows converging towards scutellum; pleuræ punctate; scutellum finely rugoso-punctate and bifoveolate; abdomen brownish-black on dorsum, reddish-brown beneath, smooth and shining and of a very peculiar shape; viewed from above it is as usual, but viewed sideways it is much deeper than long, with the ovipositor projecting at an angle of forty-five degrees; with a quarter inch glass the segments show that they are finely microscopically punctate; wings hyaline, veins yellowish, areolet closed, the closing vein being faint and nearly hyaline, radial vein and subcostal extend to costal edge but the subcostal does not extend along the margin to radial vein, hence is open; legs reddish-brown.

Described from one specimen taken from gall May 3d.

The Cone Gall.

A black or brownish-black conical gall, issuing from the bud axils of the larger branches of *Quercus laurifolia* and *Q. phellos*, was discovered early in April. They present a very anomalous appearance on the branch.

From numerous specimens gathered early in the season, I have bred many parasites, principally *Figites*, but no *Cynips*, and my description is made from a dried specimen obtained by opening one of the galls.

***Cynips q. conifera* n. sp.**

Galls.—Hard, conical, black or brownish-black galls, less than half an inch or more long, by a quarter of an inch or more in diameter at

base, issuing from the bud axils on the larger branches. Some of the specimens are curved in a regular hook at tip.

Gall-Fly.—♀.—Length .10 inch. Brownish-yellow, finely punctate, pubescent back of eyes, face slightly pubescent; antennæ 15-jointed, third joint longest, four to ten subequal, the following equal, apical joint slightly longer than penultimate; thorax: parapsidal grooves distinct, two longitudinal furrows, pleuræ aciculate; scutellum roundish, elevated posteriorly, rugoso-punctate, bifoveolate with the basal and posterior margins dark brown; abdomen smooth and shining; ovipositor slightly exerted; wings hyaline, veins stout, brownish, areolet almost closed, radial area open; legs brownish-yellow.

The Lemon-like Gall of the Willow Oak.

By this popular name, I designate another gall on *Quercus phellos*, yellow in color and not unlike a lemon in shape.

***Cynips q. citriformis* n. sp.**

Galls.—Globular, smooth, shining yellowish galls, from seven-eighths to an inch in length, by three-eighths to half an inch in diameter, attenuated to a sharp point at tip and with a single kernel in the centre, held in place by a few thin, radiating, spiculate filaments.

Gall-Fly.—♀.—Length .20 inch. Robust, head and thorax brownish-black, deeply and coarsely rugoso-punctate, eyes black, cheeks and face pubescent, palpi brownish; antennæ 13-jointed, reddish-brown, first joint stout as long as fourth, second globular, third longest, fourth to eighth subequal, the following to thirteenth short, equal, thirteenth more than twice the length of penultimate, all joints pubescent; thorax slightly pubescent, parapsidal grooves indistinct, longitudinal furrows obsolete; scutellum almost round, bifoveolate, rugoso-punctate and slightly pubescent, pleuræ rugoso-punctate, pubescent; wings hyaline, veins yellowish, areolet closed, petiolated, radial area open, a dark brown spot extending across the base from tip of subcostal, basal vein thick, along costal for short distance dark brown; abdomen bright shining reddish-brown, microscopically punctate, a few short hairs at base of second segment; legs reddish-brown, pubescent, posterior pair a shade darker.

Described from three bred specimens which issued from galls during the first week in May. No males.

The following additions to the Library of the American Entomological Society were announced:—

Proceedings of the Boston Society of Natural History, vol. xx, pp. 417—448. From the Society.

Canadian Entomologist, vol. xiii, Nos. 5 and 6. From the Society.

Psyche, vol. iii, No. 81, January, 1881. From the Editors.

Le Naturaliste Canadien, vol. xii, No. 140, Mars—Avril 1881. From the Editor.

SEPTEMBER 9, 1881.

Director Dr. LeCONTE in the chair.

The Publication Committee announced the completion of the Transactions of the American Entomological Society to page 134.

Dr. Horn on behalf of the author presented the following paper, entitled

Studies on the North American CHALCIDIDÆ. with descriptions of New Species from Florida.

BY WILLIAM H. ASHMEAD.

Jacksonville, Florida.

[PAPER No. 1.]

The following is the beginning of a series of papers on our North American Chalcididæ—a large and extensive family of parasitic hymenopterous insects comprising the minute forms, which are, however, readily distinguished from all others by their elbowed antennæ and almost veinless wings.

Although they are among the most interesting and brilliantly colored of the order Hymenoptera; yet up to the present time, when we take into consideration the extent of our continent, comparatively few species have been described.

These studies are not intended to be exhaustive but merely preliminary—i. e., an attempt to ascertain and group together all that has been written on the subject, and at the same time describe the new forms brought under my observation in Florida.

The species belonging to the genera *Leucospis*, *Smicra* and *Chalcis*, have been exhaustively treated by our well known Hymenopterist Mr. E. T. Cresson, in a memoir published in Vol. IV, Trans. Amer. Ent. Soc. 1872. I have, therefore, only to record the new species since its publication.

SMICRA Spinola.

Smicra gigantea Ashmead, Canadian Entomologist, vol. xiii, p. 90, 1881.

Smicra decem-punctata n. sp.—♀.—Length .23 inch. Head, thorax and the large posterior coxæ brown-black, punctate; eyes greenish, ocelli black, smooth, and shining; antennæ brown becoming reddish-brown towards tip, finely pubescent, scape short; thorax slightly convex, microscopically covered with whitish pubescence, collare very short, transverse, with two small red medio dots; parapsidal grooves distinct, an oblong red spot at anterior corners of præscutellum with smaller ones at posterior corners; two indistinct dots on piece in front of base of wings; scutellum somewhat pentagonal, lateral sides only margined with red which becomes slightly wider posteriorly; abdomen fusiform, attenuated to a sharp point, reddish-brown becoming black towards tip, peduncle moderate;

wings fusco-hyaline with a small black stigmal dot, and with the last two-thirds of the outer costal edge black, other veins brownish; legs yellowish, anterior and middle femora infuscated in middle, the thick oval posterior femora yellowish-brown, a broad dark medio band occupying one-third or more of the surface, the band is also extended over on to the tibiæ as may be seen when these are drawn up into the femoral groove, the latter armed with about eighteen small but regular teeth, tarsi pale yellowish, unguis black.

Captured on rose galls. I do not think it parasitic on the galls; it was probably attracted there by some larvæ.

EURYTOMA Ill.

Eurytoma bicolor Walsh, Amer. Entom. vol. ii, p. 298, 1869.

Eurytoma prunicola Walsh, loc. cit. fig. 1.

This species I have bred from the cynipidous oak gall *C. q. rugosa* Ashmead. It agrees very well with Walsh's description excepting its larger size and the whole abdomen being black. He says: "♀ with the long medial or fifth joint always rufous and the fourth generally piceous." I am therefore in doubt whether the determination is correct.

Var. *globulicola* Walsh, loc. cit.

Eurytoma auriceps Walsh, loc. cit. p. 299.

Var. *seminatrix* Walsh, loc. cit.

Eurytoma punctiventris Walsh, loc. cit.

Recognized here from one ♀ bred from the cynipidous oak gall *C. q. batatoides* Ashmead.

Eurytoma abnormicornis Walsh, loc. cit.

Eurytoma diastrophii Walsh, loc. cit.

Var. *Bolteri* Riley, First Mo. Report, p. 177, 1869, illustrates ♂ and ♀ antennæ; Walsh, Am. Entom. vol. ii, p. 299, 1869.

Eurytoma studiosa Say, Bost. Journ. Nat. Hist. vol. i, 1835; Say, Am. Entom. ed. LeConte, vol. ii, p. 720; Am. Entom. vol. ii, p. 299.

Eurytoma orbiculata Say, Bost. Journ. Nat. Hist. vol. i, 1835; Say, Am. Entom. ed. LeConte, vol. ii, p. 720; Am. Entom. vol. ii, p. 299, 1869.

Walsh was unable to identify this species and seemed to think the "laws of coloration forbid its existence." Neither Walsh's want of success in finding it, nor are the laws of coloration sufficiently demonstrated, to warrant its rejection.

Eurytoma gigantea Walsh, loc. cit. p. 300.

Eurytoma cretheis Walker, Ann. Soc. France, 2me, Serie i, 150.

Eurytoma Hecale Walker, Ann. Soc. Ent. France, 2me, Series i, 151.

Eurytoma lanulæ Fitch, Fifth Report on noxious and other Insects of New York State Agricul. Soc. p. 817, 1859.

Eurytoma phylloxeræ n. sp.—♀.—Length .10 inch. Black. Head and thorax coarsely punctate and sparsely covered with short whitish pubescence;

antennæ 7-jointed and of a uniform yellowish-brown, joints of flagellum excepting terminal joint moniliform, the latter clavate three times as long as penultimate and showing indications of two distinct sutures; abdomen black, smooth and shining, fourth segment unusually large; wings hyaline, veins almost hyaline. legs yellowish-brown, coxæ black, tibiæ and tarsi yellowish approaching white.

Described from one ♀ bred June 11th, from the hickory gall *Phylloxera coryæ-scissa* Riley.

This species is not parasitic on the phylloxera, but on an orange-colored dipterous larva, very common in these galls.

Eurytoma succinipedis n. sp.—♀.—Length .12 to .14 inch. Head and thorax brown-black, coarsely punctate and microscopically pubescent; antennæ 8-jointed, rufous, base of flagellum infuscated and with the ultimate twice as long as the penultimate joint; abdomen black, smooth and shining, lateral tufts of whitish pubescence on sixth segment; wings hyaline, veins brown; legs rufous, coxæ black, the rufous of tibiæ shading off towards tips and tarsi into yellowish.

♂.—Length .10 inch. Antennæ 7-jointed, black; thorax free from pubescence; abdomen small with peduncle very long, otherwise as in ♀.

Described from one ♂ and four ♀♀ bred from cynipidous oak gall *C. q. succinipes* Ashmead.

Eurytoma albipes n. sp.—♀.—Length .12 inch. Coal black. Head and thorax coarsely punctate and free from pubescence; eyes brown; antennæ entirely black; basal margin of præscutellum finely rugoso-punctate; disc of scutellum not so coarsely punctate as at sides; abdomen black, smooth and shining, fourth, fifth and sixth segments pubescent; wings hyaline, veins yellowish; legs black, joints and extreme tips of tibiæ yellowish, feet pure white.

♂.—Length .08 inch. Agrees with ♀ excepting as follows: Eyes are black; antennæ 7-jointed, nodules armed with long whitish hairs; head and thorax sparsely covered with whitish pubescence; abdomen and legs pitchy black; peduncle two-thirds as long as abdomen; feet only white.

This easily recognized species was captured at large.

DECATOMA Spin.

Decatoma varians Walsh, Am. Entom. vol. ii, p. 300, fig. 2, ♂ & ♀, 1869.

Var. *dubia* Walsh, loc. cit.

Decatoma nigriceps Walsh, loc. cit.

Var. *exerucians* Walsh, loc. cit.

Decatoma hyalipennis Walsh, loc. cit. p. 301.

Decatoma simplicistigma Walsh, loc. cit.

Decatoma nubilistigma Walsh, loc. cit.

Decatoma flava Ashmead, Can. Ent. vol. xiii, p. 134.

Decatoma quercus Ashmead, loc. cit. p. 135.

Decatoma lanæ Ashmead, loc. cit.

Decatoma phellos Ashmead, loc. cit. p. 136.

Decatoma foliatæ Ashmead, loc. cit.

Decatoma batatoides Ashmead, loc. cit.

Decatoma bicolor n. sp.—♀.—Length .10 to .12 inch. Head, thorax, antennæ and legs a dark brown; head and thorax coarsely punctate, sparsely microscopically pubescent; eyes dark; posterior tibiæ infuscated; abdomen black, smooth and shining; wings hyaline, a large smoky bottle-shaped blotch extending two-thirds across the wings.

An easily recognized species. Described from five specimens—four captured at large and one bred from cynipidous live oak root gall *Dryorhizoxenus floridanus* Ashmead.

Decatoma catesbæi n. sp.—♀.—Length .05 to .06 inch. Uniform honey-yellow. Head and thorax coarsely punctate and microscopically sparsely pubescent; ocelli and eyes dark; abdomen very slightly infuscated, wings hyaline, stigmal blotch very small; legs honey-yellow, tibiæ and feet pale.

Described from two ♀ bred May 13th, from cynipidous oak gall *C. q. catesbæi* Ashmead.

ISOSOMA Walker.

Isosoma hordei Harris; Walsh, Am. Ent. vol. ii, p. 329, fig. 3 ♀, fig. 4 ♂ and ♀.

Eurytoma hordei Harris; Fitch, 3d. N. Y. Rep. p. 159.

Eurytoma tritici Fitch, 3d. N. Y. Rep. p. 159.

Eurytoma secalis Fitch, 3d. N. Y. Rep. p. 159.

Eurytoma fulvipes Fitch, 3d. N. Y. Rep. p. 159.

Isosoma vitis Saunders, Can. Ent. vol. ii, p. 25; Riley, 2d. Mo. Rep. p. 92.

CALLIMOME Spinola.

Callimome ebria Osten Sacken, Trans. Am. Ent. Soc. vol. iii, p. 58, 1870.

Callimome dura Osten Sacken, loc. cit. p. 59.

Callimome advena Osten Sacken, loc. cit. p. 59.

Callimome tubicola Osten Sacken, loc. cit. p. 60.

Callimome flavicoxa Osten Sacken, loc. cit. p. 61.

Callimome Sackenii Ashmead.

C. brevicauda Osten Sacken, loc. cit. p. 62.

This species I have changed to above as *brevicauda* was preoccupied in the genus by Walker *vide* Eng. Mag. i, 126.

Callimome magnifica Osten Sacken, loc. cit. p. 62.

Callimome chrysochlora Osten Sacken, loc. cit. p. 63.

Callimome solitaria Osten Sacken, loc. cit. p. 64.

Callimome splendidus Barnstone, mss. Walker, Ann. Nat. Hist. xiv, 14; Brit. Mus. List i, 20.

Callimome cecidomyæ Barnstone, loc. cit.

Callimome Theon Walker, Ann. Soc. Ent. France, 2me Serie.

Callimome Cissus Walker, loc. cit.

Callimome æa Walker, Ann. Nat. Hist. xii, 104.

Callimome cœrulea n. sp.—♀.—Length .20; ovip. .23 inch. Uniform brilliant blue; head transverse, very short, microscopically punctate; ocelli prominent, smooth and dark, eyes brown, face pubescent, cheeks slightly pubescent; thorax microscopically transversely punctate; scutellum bordered posteriorly by a small ridge; ovipositor long, black; wings hyaline, ligaments of wings and veins brownish; legs red-brown, tarsi paler, unguis brown.

♂.—Length .15 inch. The posterior femora are blue, the tibiæ are darker and the usual structural differences easily distinguish it from the ♀; otherwise I can see no difference.

Described from several specimens bred from cynipidous oak gall *C. q. cinerea* Ashmead.

Callimome recemareæ n. sp.—♀.—Length .18 to .20; ovip. .28 inch.

This species in color and markings resembles *C. cœrulea* very much and for a long time I was of the opinion that they were identical. A more careful examination soon dispelled the illusion. It may be easily distinguished by a more slender form, by punctation, being more coarsely punctured than *cœrulea*, by the face being covered by a dense silky pubescence, by the antennæ being brownish, scape reddish, by the much longer ovipositor, and by the yellowish-red pubescent legs. In *cœrulea* the legs are not pubescent.

The ♂ is .16 inch in length, and is difficult to distinguish from ♂ of *cœrulea*. It may be distinguished however by the scutellum being divided in the middle by a transverse suture, by all the femora being blue excepting at tips and by a darker abdomen.

Described from two specimens raised from cynipidous oak gall *C. q. recemaria* Ashmead.

Callimome ænea n. sp.—♀.—Length .10; ovip. .08 inch. Head and thorax greenish-golden, microscopically punctate; head transverse, pubescent; eyes brown; antennæ brown; scape reddish; thorax microscopically pubescent; abdomen gold bronze, ovipositor black; wings hyaline, veins brown; legs, coxæ and femora brown, posterior pair darkest, tibiæ lighter, tarsi pale, unguis brown.

♂.—Length .06 to .08 inch. Uniform bronze with coxæ black and tibiæ with a dusky blotch on middle of upper surface; coloration otherwise as in ♀.

Described from several specimens raised from cynipidous oak gall *C. q. virens* Ashmead.

Callimome brevissimicauda n. sp.—♀.—Length .12 inch; ovip. .04, some specimens hardly that. Head greenish-golden, microscopically scratched; ocelli prominent, dark; eyes brown; antennæ black, scape yellowish, mouth parts brown; thorax microscopically and slightly transversely punctate, pubescent and of a greenish-gold color, with a bluish or purplish tinging on collare, præscutellum and parapsides; scutellum greenish-golden, finely uniformly punctate; meta-thorax purplish or bluish, rugose; side pieces beneath the wings smooth, metallic-green; abdomen greenish-brassy, smooth and shining, dorsal base of first segment purplish or bluish, ovipositor dark brown or black; wings hyaline, tip of

costal vein and stigma brownish; legs and coxæ yellowish, posterior coxæ bluish, tarsi paler.

Described from numerous specimens bred from the cynipidous black-berry gall *Diastrophus nebulosus* Osten.Sacken.

Callimome elegantissima n. sp.—♀.—Length .19; ovip. .20 inch. Head and thorax a brilliant gold; head transverse, very short, ocelli prominent, brown; eyes prominent bright red; mouth and surroundings black, face covered with short whitish pubescence with a few on cheeks; antennæ black; thorax very coarsely punctate; collare transverse, narrowed in front and not so coarsely punctate as mesothorax and sparsely covered with short whitish pubescence, parapsidal grooves distinct, triangular pieces at base of scutellum, and scutellum coarsely punctate and covered sparsely with whitish pubescence, the small pieces on either side of the triangular pieces situated at base of wings smooth and purplish; side pieces beneath the wing metallic-blue; abdomen ovate, compressed, smooth and shining, of a greenish-golden color, a large metallic-blue dorsal blotch, tip of abdomen and venter metallic-blue; wings hyaline, veins slightly yellowish; legs brown, tarsi paler, posterior femora metallic-blue and punctate, unguis dark brown.

Described from one ♀ bred from cynipidous oak gall *C. q. ficus* Fitch?. A very brilliant species.

Callimome virentis n. sp.—♀.—Length .14, ovip. .05 inch. Head and thorax bright metallic-green. Head transverse, finely shallowly punctate, with purplish and violet reflections; ocelli prominent, brown; eyes brown, face sparsely pubescent, mouth parts brown; antennæ dark brown, scape reddish or brown; thorax very finely punctate, with coarser punctures scattered over it; præscutellum violaceous, parapsides tinged with same; scutellum greenish-golden, punctate; metathorax purplish, beneath the wings smooth and purplish; abdomen smooth, shining, metallic-green, first segment above bluish-purple, ovipositor black, venter purplish; wings hyaline, veins yellowish; legs yellowish-red, tarsi yellowish, hind coxæ purplish, unguis brown.

Described from several specimens raised from the cynipidous oak gall *C. q. virens* Ashmead.

The following species does not belong to this group, but I insert it here, on account of the interest attached to it, being probably the first discovered in this country.

Chirocerus floridanus n. sp.—♀.—Length .10 inch. Black. Head and thorax microscopically confluent punctate; antennæ 12-jointed, long, filiform, rather widely apart, scape long, joints of flagellum short, a little longer than broad and finely pubescent, last joint longer than penultimate; collare not visible from above; parapsidal grooves distinct; præscutellum divided by a central longitudinal groove; scutellum oval, microscopically punctate; wings hyaline, iridescent, costal edge brown ending in a dark brown semicircular stigma, with a rather long slightly curved stigmal vein springing out from lower hinder margin, and extending to about half the distance to outer edge of wing; legs red-brown; abdomen long, ovate, black and highly polished, with a few whitish hairs converging around anus.

♂.—Length .08 inch. Head and thorax above brown-black somewhat shining and microscopically rugoso-punctate; eyes prominent, brown; antennæ 10-jointed,

7-branched, black and pubescent, each joint from second armed at tip with a long pilose branch, these gradually decrease in size towards tip, becoming obsolete on ninth joint; thorax stout, rounded in front, convex and narrowing posteriorly, pubescent; collare not visible; parapsidal grooves distinct, a distinct medio-longitudinal groove on præscutellum; scutellum moderately large, roundish; pleuræ margined around the edge with coarse punctures; abdomen small, fusiform, black, smooth and shining; with a distinct but short peduncle; wings hyaline, no subcostal vein, stigma same as in ♀, the stigmal branch not quite as long as in ♀; legs brown, posterior femora black, tibiæ yellowish.

This unique and interesting little species is the first of the genus discovered in America.

Described from one ♂ and one ♀ bred in March, from the pine aphid *Lachnus australi* Ashmead. This pine aphid suffers from the attacks of many internal foes; besides the above I have bred three other chalcids and two ichneumon flies, which will be described in some future paper.

OCTOBER 14, 1881.

Director Dr. LeCONTE in the chair.

The Publication Committee announced the completion of the Transactions of the American Entomological Society to page 148.

In behalf of Mr. Ashmead, Dr. Horn presented types of nearly all the species described in the paper presented at the last meeting, for the cabinet of the American Entomological Society.

Dr. McCook exhibited some small Hymenoptera hatched from the nests of Mud-Wasps. He also placed before the meeting the nests and cocoons of some spiders, showing the means made use of for their protection and concealment.

Dr. Horn exhibited a new *Cyckrus* from Washington Territory, belonging to the sub-genus *Sphæroderus*, this being the first known occurrence of the latter west of the Mississippi.

A female *Xenorhipis* was also shown. This has the antennæ not very different from *Melanophila* or *Agrilus* while the male antennæ are flabellate.

Dr. LeConte gave his views regarding the dispersion of Coleoptera in times following the glacial epoch. At the time when the present circumpolar regions were much warmer than now and the continents probably less separated or even joined, the fauna was perhaps the same in the entire region. The glacial invasion extended farther south in the Atlantic region than in the Pacific, obliterating in great part the Coleoptera of this side of the continent while the Pacific slope was less disturbed. Consequently the species of the latter region being the

descendants of the circumpolar fauna, a notable resemblance is observed with their descendants in the European fauna. Our Atlantic region was probably replenished by an invasion of species from the south.

Dr. McCook spoke of the effect of the cold of last winter in exterminating the spiders in various neighborhoods, notably near Washington.

Dr. LeConte read the following notes on the habits and localities of Coleoptera.

Cicindela pamphila.—Corpus Christi, Texas; (Mische).

Chlænius Chaudoiri.—Lee Co., Texas; (Mische).

Necrophilus Pettitii.—In fungi, dense woods of Burke Co., N. C.; (Morrison).

Polymæchus brevipes.—In oak stumps in a state of moist decay; Lancaster Co., Pa.; (G. W. Caffray).

Gyascutus sphenicus Lec.—Does not seem to differ from the Mexican *Latipalpis suginata* Mann.

Buprestis apricans.—Pine woods; North Carolina to Louisiana.

Chrysobothris acuminata.—Austin Co., Texas; (Mische).

Stethon pectorosus.—Dead hickory stump; Fort Madison, Iowa; (Myers).

Orthopleura damicornis.—Lives in dead oak.

Oberea Schaumii.—In Cotton wood.

Asida puncticollis.—Fresh specimens of this species recently obtained by Mr. Aug. Merkel are finely pubescent.

Boletophagus corticola.—In fungus growing on Locust tree.

Coleocerus dispar.—Austin Co., Texas; abundant; (Mische).

Phytonomus punctatus.—This common European species has been noted by Mr. Riley as depredating on clover, in Yates Co., N. Y. *P. opimus* Lec., founded on an old and somewhat rubbed specimen is referable to the same species, and shows that it is not a recent importation to this country. The specimen in question was given me by Dr. Melsheimer about twenty-five or thirty years ago and was then old. A similar specimen was not long afterwards sent to me from Canada. Some peculiar circumstances have probably in this, as in many other instances already recorded, favored the development of this insect in Yates Co. to such an extent as to make it injurious.

Lixus musculus.—From galls on Polygonum; (D. S. Kellicott).

Conotrachelus fissunguis.—Lives on Hibiscus in wet places in Maryland; (Lugger).

Sphenophorus pertinax.—From *Typha latifolia*; (D. S. Kellicott).

———— *costipennis*.—From *Scirpus lacustris*; (Kellicott).

The following additions to the Library of the American Entomological Society were announced :—

Entomologist's Monthly Magazine, Nos. 206 to 209. From the Conductors.

Canadian Entomologist, vol. xiii, Nos. 7 and 8. From the Editor.

Papilio, June, 1881. From the Editor.

Proceedings of the Boston Society of Natural History, sigs. 29 to 31. From the Society.

Transactions of the American Entomological Society, vol. ix, No. 1. From the Publication Committee.

Psyche, Nos. 82 and 83. From the Editors.

Proceedings of the Academy of Natural Sciences, 1881, part 1. From the Academy.

Bulletin of the Essex Institute, vol. xiii, Nos. 1—6. From the Institute.

Le Naturaliste Canadien, Nos. 141 and 142. From the Editor.

General Index and Supplement to the nine reports on the Insects of Missouri, by C. V. Riley. From the Author.

Further Notes on the Pollination of Yucca and on Pronuba and Prodoxus, by C. V. Riley. From the Author.

Transactions of the Royal Society of South Australia, vol. iii. From the Society.

Proceedings of the meetings of the Zoological Society of London, 1880, part 4; 1881, part 1. From the Society.

Journal of the Royal Microscopical Society, vol. i, parts 3 and 4. From the Society.

Annales de la Société Entomologique de Belgique, vols. xxiii and xxiv. From the Society.

Tijdschrift voor Entomologie, vol. xxiii, Nos. 1 and 2. From the Netherland Entomological Society.

Entomologisk Tidskrift, 1881, No. 1. From the Editor.

Annali del Museo Civico di Storia Naturali di Genova. From the Society.

Bullettino della Società Entomologica Italiana, 1881, No. 2. From the Society.

Etude sur les especes de la Tribu des Féronides qui se rencontrent en Belgique, by A. Preudhomme de Borre. From the Author.

Hymenoptères Famille des Scoliides Voyage au Turkestan, par H. de Saussure. From the Author.

NOVEMBER 11, 1881.

Director Dr. LeCONTE in the chair.

The Publication Committee announced the completion of vol. ix of the Transactions of the American Entomological Society to page 196.

The Publication Committee reported favorably the following paper for publication in the Transactions:—

“Index to the Species of Coleoptera described by John L. LeConte, M. D.,” by Samuel Henshaw.

The following additions to the Library of the American Entomological Society were announced:—

Proceedings of the Zoological Society of London, 1881, part 2. From the Society.

Journal of the Royal Microscopical Society of London, October, 1881. From the Society.

Bulletin of the Essex Institute, vol. xiii, Nos. 7—9. From the Institute.

Entomologist's Monthly Magazine, No. 210. From the Conductors.

Canadian Entomologist, vol. xiii, No. 9. From the Editor.

Le Naturaliste Canadien, No. 143, vol. xii. From the Editor.

Psyche, vol. iii, No. 85. From the Editors.

Il Naturalista Siciliana, vol. i, No. 1. From the Publishers.

New Carboniferous Insects, by S. H. Scudder. From the Author.

DECEMBER 12, 1881.

Director Dr. LeCONTE in the chair.

The Publication Committee announced the completion of vol. ix of the Transactions of the American Entomological Society to page 212.

Mr. E. T. Cresson presented the following descriptions of new Hymenoptera in the collection of the American Entomological Society:

Encerceris bicolor.—♀.—Fulvo-ferruginous; strongly, closely and more or less confluent punctured, the pubescence thin and pale except on apex of the abdomen where it is black; apex of mandibles, tip of clypeal spine, spot enclosing ocelli, most of thorax and the three apical segments of abdomen, black; head large, transversely quadrate; clypeus short and very broad, the apical margin broadly arched, with a short acute tooth beneath median lobe, and another more obtuse on either side just above the large tooth on mandibles, the median lobe produced into a triangular subacute spine; labrum broad and subtruncate at tip; mandibles with a large obtuse tooth within near base; thorax sometimes entirely black, sometimes ferruginous with the sides only black, generally the prothorax. scutellums and metathorax are more or less varied with ferruginous; the triangular enclosed space at base of metathorax transversely striated, the striations becoming

oblique on the sides, the disk with a well impressed longitudinal line; mesopleura with a prominent angle beneath; wings yellowish subhyaline, the apex with costal half fuliginous and subviolaceous, costal nerve and stigma fulvous; abdomen with large deep uneven punctures, sometimes more or less confluent, the transverse median depressions on the segments above more closely and finely punctured; sometimes the depressed disk of apical segment is varied with ferruginous. Length .60—.65 inch.

Hab.—Montana, (Morrison). The clypeus is formed much as in *fulviceps* Cross.

Mellinus abdominalis.—♀.—Black; head and thorax almost smooth, subopaque; short line on upper anterior orbits, flagellum beneath except at base, palpi, narrow line on posterior margin of prothorax, transversely quadrate spot on scutellum, a smaller one on postscutellum, upper margin of tubercles, sometimes a dot behind, spot on tegulæ, apical half of four anterior femora beneath, their tibiæ beneath and most of their tarsi, all lemon-yellow; apical middle of clypeus produced, truncate, with a short acute medial tooth, the lateral angles of the truncation more or less acute and dentiform; the enclosed raised space at base of metathorax above, smooth and shining, opaque and rugulose at base; wings hyaline, iridescent, nervures black; tips of posterior tarsi rufo-testaceous; abdomen shining, rufo-ferruginous, base of first, and the two or three apical segments more or less black; first segment clavate, but not protuberant at tip above. Length .40—.45 inch.

♂.—More slender than ♀, especially the abdomen; anterior orbits, clypeus more or less, most of mandibles, antennæ beneath except the two apical joints, the tenth and eleventh joints above, line on posterior margin of prothorax, spot on tegulæ, two beneath, another on scutellum and postscutellum, coxæ beneath, and sometimes a spot on each side of abdominal segments 3—5, white or yellowish-white; all the femora and tibiæ beneath lemon-yellow; tarsi fulvo-testaceous, except the posterior pair at base; the face, cheeks, thorax beneath and metathorax with a silvery sericeous pile; sides of clypeus generally stained with brown; first segment of abdomen beneath and the three or four apical segments above and beneath mostly black, apex beneath with a tuft of yellowish hair. Length .30—.40 inch.

Hab.—Montana, (Morrison). Easily recognized by the ferruginous abdomen, the first segment of which is not nodose at apex above as in *rufinodus*, which it much resembles in form and sculpture.

The following additions to the Library of the American Entomological Society were announced:—

Transactions of the American Entomological Society, vol. ix, Nos. 1 and 2. From the Publication Committee.

Proceedings of the Academy of Natural Sciences of Philadelphia, 1881, part 2. From the Academy.

Transactions of the Kansas Academy of Sciences, vol. vii. From the Academy.

Proceedings of the Boston Society of Natural History, 1881, sigs. 5—8. From the Society.

Bulletin of the Buffalo Society of Natural Sciences, vol. iv, No 1.
From the Society.

Canadian Entomologist, vol. xiii, Nos. 10 and 11. From the Editor.

Psyche, vol. iii, No. 85. From the Editors.

Papilio, vol. i, Nos. 6—10. From the Editors.

Le Naturaliste Canadien, No. 143, vol. xii. From the Editor.

Annales de la Société Entomologique de France, Sér. 5, vol. xvi.
From the Society.

Mittherlungen der Schweizerischen Entomologischen Gesellschaft, vol.
vi, No. 4. From the Society.

Il Naturalista Siciliana, vol. i, No. 2. From the publishers.

Entomologisk Tidskrift, 1881, No. 2. From the Editor.

Descriptions of new Tortricidæ, by C. V. Riley. From the Author.

The Tertiary Lake Basin of Florissant, Colorado, by S. H. Scudder.
From the Author.

General Index and Supplement to Nine Reports on Insects of Mis-
souri, by C. V. Riley. From the Author.

Species des Hyménoptères d'Europe and d'Algerie, par Ed. Andre,
October, 1881. From the Author.

Study of the Sphecidæ, Larradæ and Philanthinæ, by W. H. Patton.
From the Author.

The following Officers etc., were elected to serve for the year 1882:—

Director.—John L. LeConte, M. D.

Vice-Director.—George H. Horn, M. D.

Recorder.—James H. Ridings.

Treasurer.—E. T. Cresson.

Conservator.—Charles Wilt.

Publication Committee.—George H. Horn, M. D.

Samuel Lewis, M. D.